WHAT IS CLAIMED IS:

1. An information recording device for executing processing which records actual data in each actual data part of data storage means and records redundant data which corresponds to the actual data in each redundant part of said data storage means which corresponds to the actual data part,

wherein:

said information recording device comprises a memory interface unit for accessing said data storage means, and a control unit for controlling said memory interface unit; and

said memory interface unit includes a cryptosystem unit and said cryptosystem unit executes processing in which an integrity check value based on actual data to be stored in the actual data part is generated in response to a data-writing command from said control unit to said data storage means, and is stored in the redundant part.

2. An information recording device according to Claim 1, wherein:

said data storage means has a data storage area consisting of a plurality of blocks, each of which consists of a plurality of sectors which each have a predetermined data capacity;

the actual data part and the redundant part are provided in each of the sectors; and

in the cryptosystem unit of said memory interface unit, the integrity check value is generated based on each sector data to be stored in the actual data part of each of the sectors, and is stored in the redundant part corresponding to each of the sectors.

3. An information recording device according to Claim 1, wherein said memory interface unit executes processing in which, in the redundant data part, an integrity check value of the actual data part and an error correcting code for data to be stored in the actual data part are stored.

4. An information recording device according to Claim 1, wherein:

said data storage means has a data storage area consisting of a plurality of blocks, each of which consists of a plurality of sectors which each have a predetermined data capacity;

the actual data part and the redundant part are provided in each of the sectors; and

said memory interface unit generates header information corresponding to data to be stored in said data storage means, and the generated header information is flagged to

indicate whether or not the integrity check value is stored in the redundant part of each of the sectors.

5. An information recording device according to Claim 1, wherein said memory interface unit executes:

processing in which, after header information corresponding to data to be stored is generated, an integrity-check-value generating key for the data to be stored is stored in the generated header information; and

processing in which, by using the generated integrity-check-value generating key, the integrity check value is generated for the data to be stored, and is stored in the redundant part.

6. An information playback device for playing back data from data storage means in which actual data is recorded in each actual data part and redundant data corresponding to the actual data are recorded in each redundant part corresponding to the actual data part, said information playback device comprising:

a memory interface unit for accessing said data storage means; and

a control unit for controlling said memory interface unit;

wherein said memory interface unit includes a

cryptosystem unit and said cryptosystem unit executes processing in which, after an integrity check value based on actual data stored in the data part is generated in response to a data-reading command from said control unit to said data storage means, actual-data-integrity verification is performed by collating the generated integrity check value with an integrity check value which has already been stored in the redundant part.

7. An information playback device according to Claim 6, wherein:

said data storage means has a data storage area consisting of a plurality of blocks, each of which consists of a plurality of sectors which each have a predetermined data capacity;

the actual data part and the redundant part are provided in each of the sectors; and

in the cryptosystem unit of said memory interface unit, after the integrity check value is generated based on each sector data stored in the actual data part of each of the sectors, actual-data-integrity verification is performed by collating the generated integrity check value with each of integrity check values stored in the redundant part corresponding to each of the sectors.

8. An information playback device according to Claim 6, wherein said memory interface unit performs:

actual-data-integrity verification based on the integrity check value stored in the redundant part; and

actual-data-error correction based on an error correcting code stored in the redundant part.

9. An information playback device according to Claim 6, wherein:

said data storage means has a data storage area consisting of a plurality of blocks, each of which consists of a plurality of sectors which each have a predetermined data capacity;

the actual data part and the redundant part are provided in each of the sectors; and

based on information which indicates whether or not each sector-unit integrity check value is stored in each redundant part and which is determined based on header information corresponding to stored data, said cryptosystem unit executes, based on actual data, the integrity-check-value generating processing on only sector data in which an integrity check value is stored in a redundant part, and performs sector-data-integrity verification by collating the generated integrity check value with an integrity check value which has already been stored in the redundant part.

10. An information playback device according to Claim 6, wherein, after said cryptosystem unit acquires an integrity-check-value generating value for stored data from header information corresponding to the stored data, said cryptosystem unit uses the generated integrity-check-value generating value to generate an integrity check value based on actual data, and executes actual-data-integrity verification processing by collating the generated integrity check value with an integrity check value which has already been stored in the redundant part.

11. An information playback device according to Claim 6, wherein, in the cryptosystem unit of said memory interface unit, after an integrity check value is generated based on the actual data stored in the actual data part, actual-data-integrity verification processing is executed by collating the generated integrity check value with an integrity check value which has already been stored in the redundant part, and when the verification indicates interpolation, a read-success flag is set to indicate a failure, and a data-reading command from said control unit to said data storage medium is canceled.

12. An information recording method for an information

recording device which records actual data to each actual data part of data storage means and records redundant data corresponding to each actual data in each redundant data part of said data storage means,

wherein:

said information recording device comprises a memory interface unit for accessing said data storage means, and a control unit for controlling said memory interface unit; and

said memory interface unit executes processing in which an integrity check value is generated based on the actual data to be stored in the actual data part in response to a data-writing command from said control unit to said data storage means, and the generated integrity check value is stored in the redundant part.

13. An information recording method according to Claim 12, wherein:

said data storage means has a data storage area consisting of a plurality of blocks, each of which consists of a plurality of sectors which each have a predetermined data capacity;

the actual data part and the redundant data part are provided in each of the sectors; and

said memory interface unit executes processing in which, based on each sector data stored in the actual data part of

each of the sectors, the integrity check value is generated and stored in the redundant part of each of the sectors.

14. An information recording method according to Claim 12, wherein said memory interface unit executes processing in which, in the redundant data part, an integrity check value of the actual data part and an error correcting code for data to be stored in the actual data part are stored.

15. An information recording method according to Claim 12, wherein:

said data storage means has a data storage area consisting of a plurality of blocks, each of which consists of a plurality of sectors which each have a predetermined data capacity;

the actual data part and the redundant data part are provided in each of the sectors; and

said memory interface unit generates header information corresponding to data to be stored in said data storage means, and sets, in the generated header information, a flag indicating whether or not an integrity check value is stored in the redundant part of each of the sectors.

16. An information recording method according to Claim 12, wherein said memory interface unit executes:

processing in which, after header information corresponding to data to be stored is generated, an integrity-check-value generating key for the data to be stored is stored in the generated header information; and

processing in which, by using the generated integrity-check-value generating key, the integrity check value is generated for the data to be stored, and is stored in the redundant part.

17. An information playback method for an information playback device for playing back data from data storage means in which actual data is recorded in each actual data part and redundant data corresponding to the actual data are recorded in each redundant part,

wherein:

said information playback device comprising:

a memory interface unit for accessing said data storage means; and

a control unit for controlling said memory interface unit; and

said memory interface unit executes processing in which, after an integrity check value based on actual data stored in the data part is generated in response to a data-reading command from said control unit to said data storage means, actual-data-integrity verification is performed by collating

the generated integrity check value with an integrity check value which has already been stored in the redundant part.

18. An information playback method according to Claim 17, wherein:

said data storage means has a data storage area consisting of a plurality of blocks, each of which consists of a plurality of sectors which each have a predetermined data capacity;

the actual data part and the redundant part are provided in each of the sectors; and

in said memory interface unit, after the integrity check value is generated based on each sector data stored in the actual data part of each of the sectors, actual-data-integrity verification is performed by collating the generated integrity check value with an integrity check value stored in the redundant part corresponding to each of the sectors.

19. An information playback method according to Claim 17, wherein said memory interface unit performs:

actual-data-integrity verification based on the integrity check value stored in the redundant part; and

actual-data-error correction based on an error correcting code stored in the redundant part.

20. An information playback method according to Claim 17, wherein:

said data storage means has a data storage area consisting of a plurality of blocks, each of which consists of a plurality of sectors which each have a predetermined data capacity;

the actual data part and a redundant part corresponding to the actual data part are provided in each of the sectors; and

based on information which indicates whether or not each sector-unit integrity check value is stored in the redundant part and which is determined based on header information corresponding to stored data, said memory interface unit executes, based on actual data, the integrity-check-value generating processing on only sector data in which an integrity check value is stored in a redundant part, and performs sector-data-integrity verification by collating the generated integrity check value with an integrity check value which has already been stored in the redundant part.

21. An information playback method according to Claim 17, wherein, after said memory interface unit acquires an integrity-check-value generating value for stored data from

header information corresponding to the stored data, said memory interface unit uses the generated integrity-check-value generating value to generate an integrity check value based on actual data, and executes actual-data-integrity verification processing by collating the generated integrity check value with an integrity check value which has already been stored in the redundant part.

22.   An information playback method according to Claim 17, wherein, in said memory interface unit, after an integrity check value is generated based on the actual data stored in the actual data part, actual-data-integrity verification processing is executed by collating the generated integrity check value with an integrity check value which has already been stored in the redundant part, and when the verification indicates interpolation, a read-success flag is set to indicate a failure, and a data-reading command from said control unit to said data storage medium is canceled.

23.   An information recording medium having a data storage area consisting of a plurality of blocks, each of which consists of a plurality of sectors which each have a predetermined data capacity,

wherein:

each actual data is recorded in the actual data part of each of the sectors, and each redundant data corresponding to the actual data is recorded in the redundant part of each of sectors; and

an integrity check value which is generated based on each sector data to be stored in the actual data part is stored in the redundant part.

24.   A program providing medium for providing a computer program which controls a computer system to execute information recording processing for an information recording device which records actual data in each actual data part of data storage means and records redundant data which corresponds to said actual data in each redundant part of said data storage means, said control program comprising the steps of:

generating an integrity check value based on the actual data to be stored in the actual data part in response to a command to write data in said data storage means; and

storing the generated integrity check value in the redundant part.

25.   A program providing medium for providing a computer program which controls a computer system to execute information playback processing for an information playback

device for playing back data from data storage means in which actual data is recorded in each actual data part and redundant data corresponding to the actual data are recorded in each redundant part, said computer program comprising the steps of:

generating an integrity check value based on the actual data stored in the actual data part in response to a command to read data from said data storage means; and

executing actual-data-integrity verification by collating the generated integrity check value with an integrity check value which has already been stored in the redundant part.